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Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

May 26, 2009

Via Electronic Mail

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Subject; Comments on May 7, 2009 Draft *General Landscape Irrigation Permit*

Honorable Chair and Members of the Board:

Thank you for the opportunity to submit comments on the second *draft General Waste Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water* (General Permit). We appreciate the SWRCB's efforts to develop a streamlined permit framework for landscape irrigation. As a major recycled water producer (20,000 AFY) we believe that a streamlined, simple permitting procedure will go a long way toward meeting the goals of the California Water Plan and expanding recycled water use in California. While we believe we are making progress, we still feel the General Permit is cumbersome and complex and will not achieve the intended goal of expanding recycled water use.

As a major tertiary effluent producer, we distribute recycled water to four golf courses, numerous parks, schools and medians, under a Master Reclamation Permit, that is part of our NPDES permit. As such, we understand and work with on a daily basis many of the provisions that are now included in the draft General Permit such as:

1. Nutrient Management Plans;
2. Constituents of Emerging Concern;
3. Pathogens;
4. Best Management Practices;
5. Pretreatment/source control; and
6. Other relevant provisions.

Frankly, based on our existing permit, we would not wish to apply for coverage under the draft General Permit because many of its provisions are overly burdensome. Landscape irrigation sites that utilize recycled water within our service area are authorized through the California Department of Public Health's (CDPH's) Title 22 Engineering Report Process and each proposed site is reviewed by CDPH to insure that a trained On-Site Supervisor (OSS) is designated, cross connection compliance has taken place, appropriate retrofit modifications have been made, periodic site inspections have been performed, and rules in conformance with the uniform state reclamation criteria are in place and enforced. We have developed procedures with our seven participating cities to provide them with the

authority to conduct the periodic site and cross connection inspections, which would not be allowed under the draft General Permit. This implementation program is efficient and cost effective because it is performed by the entity most familiar with the details and day-to-day operations of the sites, it is tailored to the complexity of each site, and IEUA deals with the more complex implementation aspects of the permit (See attached IEUA's excerpt of General Permit relating to use of Recycled Water).

Other aspects of the draft General Permit we believe are overly burdensome include:

- **The Annual Recycled Water Use Area Report** requires the collection of monthly information for: 1) Total Water Provided by Distributor (Ac-ft.); 2) Ratio of Recycled Water Delivered by Distributor (%); 3) Volume of Recycled Water Used (Ac-ft.); 4) Volume of Additional Water Used (Ac-ft.); 5) Acreage Applied (Acres); 6) Average Nitrogen Application Rate (lbs/Acre/Month). It's not clear why all of this information is needed since there seems to be no apparent need for anything but how much recycled water is applied and the general size of the use area if there is an existing salt and nutrient management plan. The rest of the information is superfluous and would just "make work" for the permittee. Since the General Permit is generally expected to be issued to sites that already have a salt/nutrient management plan, most of this information will already be included in the plans. For example, IEUA is covered by a salt/nutrient management plan adopted by the Santa Ana Regional Board and thus appropriate nitrogen management requirements have already been applied in our NPDES permit, and additional documentations or reporting is unnecessary.
  Recommendation: Delete this requirement of the Annual Recycled Water Use Area Report by the Permittee or require it only when there is no salt and nutrient management plan.

- **Prohibition 10** disallows the use of equipment or facilities that have been used to convey recycled water when necessary for potable water supply conveyance. There may well be cases, where portions of our sites would need to be converted to potable water, and there are sufficient cleaning methods available to allow this to safely occur. However, with this prohibition, expensive infrastructure could not be used as needed and thus this prohibition is overly restrictive. This situation can best be addressed by CDPH on a case-by-case basis.
  Recommendation: Delete Prohibition 10.

- **Prohibition 9** disallows the use of hose bibs on any irrigation system operating with recycled water. As we noted in our first comment letter, there may be circumstances where hose bibs could be allowed in controlled areas as long as they comply with Specification 10 (all recycled water valves, outlets, and quick couplers should be of a type or secured in a manner that only permits operation by authorized personnel).
  Recommendation: Delete Prohibition 9.

- **Specification 6** requires that spray irrigated use areas be irrigated during periods of minimal use (e.g., between 9 p.m. and 6 a.m.) with consideration given to maximum drying times prior to use. Title 22 allows for the use of disinfected tertiary effluent for unrestricted impoundments where full body contact is allowed. Some sites, such as golf courses particularly see use early in the morning, and thus while we would avoid "watering" the golf course users, we can also organize the schedules so that some watering is occurring at the end of the courses, but would run into the 6 am deadline.
  Recommendation: We recommend that this provision be included as an optional BMP rather than as a provision in the permit.

- **Provision 5.b** – the Irrigation Management Plan. For Regional Boards that have or will be adopting salt/nutrient management plans, such as the Santa Ana Regional Board, it is our belief that this provision in the draft General Permit for the development of Irrigation Management Plans is unnecessary and redundant. However, the draft General Permit does not provide the flexibility to waive this requirement for areas where salt/nutrient management plans have been adopted. We recommend that this provision be revised to allow for such waivers.
  Recommendation: This provision should only be applicable for sites that do not already have a salt/nutrient management plan.

- **Provision 5.d** - Provision 5.d - A copy of the Producer's or Distributor's established rules and/or regulations as approved by CDPH. Under our Master Permit (and in accordance with Water Code Water Code section 13523.1(b)(3)1), we are required to establish and enforce rules or regulations for recycled water users in accordance with the uniform statewide reclamation criteria, but there is no requirement that the rules or regulations be approved by CDPH. The provision in the draft General Permit, which requires CDPH approval of the rules/regulations will create an unnecessary work burden for CDPH, as well as potentially creating lag time in the effectuation of the General Permit depending on when CDPH can officially approve the rules and regulations.
  Recommendation: Revise the provision to be consistent with the language from Water Code section 13523.1(b)(3) as follows:

  "d. A copy of the Producer's or Distributor's established rules and/or regulations ~~as approved by CDPH~~ for Producers, Distributors and Users governing the design and construction of recycled water use facilities and the use of recycled water in accordance with the criteria established in the Title 22 Requirements and this Permit."

We still feel that watering grass with high quality recycled water should be routine and that a greater level of delegation of state health authority to local water purveyors should be emphasized and included in the General Permit. One key way to accomplish this and support streamlining would be to allow for self certification for some or all site inspections for irrigation projects by local water purveyors in lieu of filling out forms to submit to the SWRCB.

Thank You for taking the time to review and consider our comments.

Sincerely,

Martha Davis
Executive Manager for Policy Development

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[1] "A requirement that the permittee establish and enforce rules or regulations for reclaimed water users, governing the design and construction of reclaimed water use facilities and the use of reclaimed water, in accordance with the uniform statewide reclamation criteria established pursuant to Section 13521."

10. Reporting: Results of all toxicity testing conducted within the month following the reporting period shall be submitted monthly in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013." The report shall include a determination of the median value of all chronic toxicity testing results conducted during the two previous months.

11. Whenever an Initial Investigation Reduction Evaluation is conducted, the results of the evaluation shall be submitted upon completion. In addition, monthly status reports shall be submitted as part of the Discharger's monitoring report for the previous month.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS

A. Monitoring Location REC-001

1. The Discharger shall monitor recycled water at REC-001 as follows:

Table 6 Reclamation Monitoring at REC-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Recorder/Totalizer	Continuous	--
pH	Standard units	Recorder/Totalizer	Continuous	--
Turbidity[12]	NTU	Recorder	Continuous	--
CT	mg-minutes/L	Recorder	Continuous[13]	--
Coliform Organisms	MPN per 100 mL	Grab	Daily	See Section I.A.3., above, of this MRP
BOD_5	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
Total Suspended Solids	mg/L	Composite	Daily	See Section I.A.3., above, of this MRP
TDS	mg/L	Composite	Monthly	See Section I.A.3., above, of this MRP

12 *Turbidity samples shall be collected at M-001.*

13 *The CT and modal contact time shall be continuously calculated and recorded. The minimum daily value shall be reported monthly.*

B. Monitoring Users

Whenever recycled water is supplied to a user, the Discharger shall record on a permanent log: the volume of recycled water supplied; the user of recycled water; the locations of those sites including the names of the groundwater management zones underlying the recycled water use sites; type of use (e.g. irrigation, industrial, etc); and the dates at which water is supplied. The Discharger shall submit annually a summary report of the recorded information by groundwater management zone to the Regional Water Board.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring During 20:1 Dilution:

The Discharger shall make provisions for the measurement of the receiving water flow at a suitable location in the river and determine whether a 20:1 dilution exists at the point of discharge before discharging secondary treated effluent. A dilution of 20:1 or more exclusive of discharges to surface waters from upstream publicly owned treatment works is required at the point of discharge for the discharge of secondary effluent. Flow measurements shall be made prior to any direct discharge to the river and shall continue on a daily basis until the discharge is terminated.

B. Monitoring Location R-001U for Surface Water

1. The Discharger shall monitor the receiving water at R-001U and the following parameters/constituents:

Table 7 Receiving Water Monitoring Requirements at R-001U

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	estimate	Weekly	--
Dissolved Oxygen	mg/L	Grab	Weekly	See Sections I.A.3. above of this MRP
Temperature	^{0}C	"	Weekly	See Sections I.A.3. above of this MRP
pH	pH unit	Grab	Weekly	See Sections I.A.3. above of this MRP
Total Dissolved Solids	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Inorganic Nitrogen	mg/L	Grab	Monthly	See Sections I.A.3. above of this MRP
Total Hardness	mg/L	Grab	Quarterly	See Sections I.A.3. above of this MRP

1) The weekly average number of coliform bacteria does not exceed a median of 23 per 100 milliliters as determined from the daily coliform bacteria values for the last seven (7) days. (see also Compliance Determination VII.J.2., below)

2) The discharge shall be considered adequately oxidized if the 5-day @ 20°C Biochemical Oxygen Demand and Total Suspended Solids constituent concentrations of the discharge are less than or equal to the limitations shown in IV.A.4.a., above.

c. The monthly average biochemical oxygen demand and suspended solids concentrations of the discharge shall not be greater than fifteen percent (15%) of the monthly average influent concentration.

d. The pH of the discharge shall be within 6.5 to 8.5 pH[14].

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Discharge Point 002

1. Upon the effective date of this Order, the use of recycled water for parks, landscape irrigation, and/or other similar uses shall maintain compliance with the following limitations. Compliance is to be measured at representative monitoring location REC-001 where representative samples of recycled water can be obtained for laboratory testing and analysis as described in the attached Monitoring and Reporting Program (Attachment E). The Discharger shall submit for approval by the Executive Officer other monitoring location(s) not specified herein where representative samples of recycled water could be obtained for laboratory testing and analysis with compliance measured at monitoring location REC-001.

a. Physical/Biological Limitations:

Table 8. Recycled Water Effluent Limitations at DP 002

Parameter	Units	Effluent Limitations	
		Average Monthly	Average Weekly
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	20	30
Total Suspended Solids	mg/L	20	30

b. TDS Limitations: The following TDS limitations apply to recycled water uses, except groundwater recharge, that would affect underlying local Groundwater Management Zone(s). These limitations may be met on an agency-wide basis using flow-weighted averages of the discharges from all treatment plants operated by the Discharger.

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[14] *See Section VII.K. Compliance Determination*

(1) If maximum benefit is demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed 550 mg/L.

(2) If maximum benefit is not demonstrated (see Provisions VI.C.6.), the 12-month flow weighted running average total dissolved solids concentration shall not exceed the following:

Table 9. Recycled Water Effluent TDS Limitations

Groundwater Management Zone	TDS limit, mg/L
Chino 1	280
Chino 2	250

c. Recycled water described in Section 60307(a) of Division 4, Chapter 3, Title 22, California Code of Regulations and for irrigation of food crops, parks and playground, school yards, residential landscaping and other irrigation uses not specified in Section 60304(a) of Division 4, Chapter 3, Title 22, California Code of Regulations or not prohibited in other Sections of the California Code of Regulations shall at all times be adequately oxidized, filtered, and disinfected tertiary treated wastewater and shall meet the following limitations:

(1) The turbidity of the filter effluent when filtration is through natural undisturbed soils or a bed of filter media shall not exceed any of the following:

(a) Average of 2 Nephelometric Turbidity Units (NTU) within any 24-hour period;
(b) 5 NTU more than 5 percent of the time in any 24-hour period; and
(c) 10 NTU at any time.

(2) The disinfected effluent shall meet the following:

(a) The weekly average total coliform bacteria[15] shall not exceed a Most Probable Number (MPN) of 2.2 total coliform bacteria per 100 milliliters (ml).
(b) The number of total coliform organism shall not exceed an MPN of 23 total coliform bacteria per 100 ml in more than one sample in any 30-day period.
(c) No total coliform sample shall exceed an MPN of 240 total coliform bacteria per 100 ml.

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[15] *See Compliance Determination Section VII.J.1.*

(d) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time[16] measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow.

d. Recycled water used for irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall at all times be adequately oxidized and disinfected so that average weekly total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

e. Recycled water used for the uses listed below shall be an oxidized and disinfected water so that the average weekly total coliform bacteria[17] in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

(1) Industrial boiler feed, nonstructural fire fighting, backfill consolidation around nonpotable piping, soil compaction, mixing concrete, dust control on roads and streets, cleaning roads, sidewalks and outdoor work areas and industrial process water that will not come into contact with workers.
(2) Irrigation of cemeteries, freeway landscaping, restricted access golf courses, ornamental nursery stock and sod farms where access by the general public is not restricted, pasture for animals producing milk for human consumption, and any nonedible vegetation where access is controlled so that irrigated area cannot be used as if it were part of a park, playground or school yard.

f. For recycled water uses specified in Sections 60304 and 60307 of Title 22 where filtration is provided pursuant Section 60301.320(a) and coagulation is not used as part of the treatment process, the Discharger shall comply with the following:

(1) The turbidity of the influent to the filters is continuously measured and the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU;
(2) The filtered wastewater turbidity shall not exceed 2 NTU within any 24-hour period; and;

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16 *Modal contact time shall be calculated daily based on the minimum one-hour average value in a 24-hour period.*

17 *See Compliance Determination Section VII.J.2.*

(3) Should the filter influent turbidity exceed 5 NTU for more than 15 minutes, chemical addition shall be automatically activated if available, if not, the wastewater shall be diverted.

2. For new reuse sites, the use of recycled water shall only commence after the California Department of Public Health (CDPH) grants final approval for such use. The Discharger shall provide the Regional Water Board with a copy of the CDPH approval letter within 30 days of the approval notice.

3. The Discharger shall be responsible for assuring that recycled water is delivered and utilized in conformance with this Order, the recycling criteria contained in Title 22, Division 4, Chapter 3, Sections 60301 through 60355, California Code of Regulations. The Discharger shall conduct periodic inspections of the facilities of the recycled water users to monitor compliance by the users with this Order.

4. The Discharger shall establish and enforce Rules and Regulations for Recycled Water users, governing the design and construction of recycled water use facilities and the use of recycled water in accordance with the uniform statewide recycling criteria established pursuant to the California Water Code Section 13521.

   a. Use of recycled water by the Discharger shall be consistent with its Rules and Regulations for Recycled Water Use.

   b. Any revisions made to the Rules and Regulations shall be subject to the review of the Regional Water Board, the California Department of Public Health, and the County Environmental Health Department. The revised Rules and Regulations or a letter certifying that the Discharger's Rules and Regulations contain the updated provisions in this Order, shall be submitted to the Regional Water Board within 60 days of adoption of this Order by the Regional Water Board.

5. The Discharger shall, within 60 days of the adoption of this Order, review and update as necessary its program to conduct compliance inspections of recycled water reuse sites. Inspections shall determine the status of compliance with the Discharger's Rules and Regulations for Recycled Water Use.

6. The storage, delivery, or use of recycled water shall not individually or collectively, directly or indirectly, result in a pollution or nuisance, or adversely affect water quality, as defined in the California Water Code.

7. Prior to delivering recycled water to any new user, the Discharger shall submit to the California Department of Public Health and the County Environmental Health Department a report containing the following information for review and approval:

   a. The average number of persons estimated to be served at each use site area on a daily basis.

b. The specific boundaries of the proposed use site area including a map showing the location of each facility, drinking water fountain, and impoundment to be used.

c. The person or persons responsible for operation of the recycled water system at each use area.

d. The specific use to be made of the recycled water at each use area.

e. The methods to be used to assure that the installation and operation of the recycled system will not result in cross connections between the recycled water and potable water piping systems. This shall include a description of the pressure, dye or other test methods to be used to test the system.

f. Plans and specifications which include following:
(1) Proposed piping system to be used.
(2) Pipe locations of both the recycled and potable systems.
(3) Type and location of the outlets and plumbing fixtures that will be accessible to the public.
(4) The methods and devices to be used to prevent backflow of recycled water into the potable water system.
(5) Plan notes relating to specific installation and use requirements.

8. The Discharger shall require the user(s) to designate an on-site supervisor responsible for the operation of the recycled water distribution system within the recycled water use area. The supervisor shall be responsible for enforcing this Order, prevention of potential hazards, the installation, operation and maintenance of the distribution system, maintenance of the distribution and irrigation system plans in "as-built" form, and for the distribution of the recycled wastewater in accordance with this Order.

9. Recycled water shall at all times be maintained within the property lines of any user. There shall be no direct or indirect discharge of recycled water into drainage systems that could affect surface water quality standards.

D. Stormwater Discharge Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this Order. The discharge shall not cause the following in Reach 3 of Santa Ana River and downstream reaches: